

REMARKS

The rejection of Claims 16, 18, 19 and 22-34 under 35 U.S.C. § 103(a) as unpatentable over EP 654,364 (Holocher-Ertl et al)¹; US 4,341,672 (Hsieh et al) and US 5,569,690 (Terakawa et al), is respectfully traversed.

In response to Applicants' argument that Hsieh et al and Terakawa et al are essentially irrelevant because neither is concerned with a silica-containing elastomer composition, and thus the disclosure of epoxidation degree in elastomer compositions not containing silica is irrelevant, the Examiner finds that Hsieh et al discloses silica (column 4, line 42) and that Terakawa et al discloses that reinforcing agents and fillers may be used as additives in their composition (column 4, lines 64-65).

In reply, Applicants do not profess to be the first to discover the use of silica in an elastomeric composition for a tire tread. But the fact that Hsieh et al and Terakawa et al simply acknowledge that such specific material, or class of material, may be added, adds nothing to the fact that they suggest an epoxidation degree that is either not particularly limited or so broad that there would have been no reason for one skilled in the art to expect any significant differences in results from using differing epoxidation degrees. As Applicants have previously argued, Hsieh et al actually prefers an epoxidation degree greater than that recited in the present claims.

In response to Applicants' argument that Holocher-Ertl et al neither discloses nor suggests the use of an epoxidation degree below the disclosed "at least 20% of Oxiran ... and particularly of at least 30% of Oxiran, is especially advantageous" (page 5, lines 23-25), and that Holocher-Ertl et al does not disclose why it is "especially advantageous," the Examiner finds that the characterization of such a range as *especially advantageous* "opens the levels of

¹ Reference to Holocher-Ertl et al in the text is to the English translation thereof, of record, unless otherwise stated.

epoxidation to values such as the parameters of as little as 5% of epoxidation of olefinically unsaturated sites set forth in [Hsieh et al] (col. 4, lines 18-23) or preferably from about 0.1 to 60 epoxy groups per 100 monomer units (col. 3, lines 9-18) of [Terakawa et al].”

In reply, a disclosure of an epoxidation degree of at least 20% and that such a degree of at least 30% is especially advantageous, does not “open the levels” (whatever that means) to lower epoxidation degree values. In addition, the Examiner has not withdrawn his finding that it is “unclear whether the minimum of 20% of oxirane groups … converts to an epoxidation level within the claimed limits,” nor has the Examiner responded to Applicants’ argument that by Holocher-Ertl et al’s use of the term “degree of epoxidation” (page 7, line 2), and in the absence of contradictory disclosure, it must be assumed that Holocher-Ertl et al is using the conventional definition. If Holocher-Ertl et al intended a different definition, then its disclosure is not enabling. Applicants’ discussion of Hsieh et al and Terakawa et al, above, applies herein as well.

With regard to the Viola Declaration of record, the Examiner continues to misinterpret the data therein. Applicants have already explained that M1-A6 must be compared with M1-A7 (and M1-A5), and not with M1-A2 or M1-A4. Indeed, it is elementary that the only valid comparison for showing criticality of one particular variable, such as epoxidation degree, requires that all other variables such as vinyl content, be the same or substantially the same. That is what Applicants have done.

Finally, in response to Applicants’ argument that Holocher-Ertl et al discloses silicic acid, not silica, the Examiner finds that the product Ultrasil VN3 is silica.

In reply, silicic acid, which is the same as hydrated silica, i.e., $\text{SiO}_2 \cdot n\text{H}_2\text{O}$, and, sometimes, silica *per se*, which is naturally present on earth, are produced through precipitation from solutions of sodium silicate in the presence of acids. The precipitate obtained after evaporation and thermal treatment at high temperature becomes silica.

Therefore, when Holocher-Ertl et al describes Ultrasil VN3 as "Kieselsäure", which literally translates as "silicic acid," and as described in Table 1 therein, it is clear that the product is precipitated silicic acid, i.e. hydrated silica that has not been thermally treated.

In the present invention, the Silica VN3 is VN3 precipitated, which has been thermally treated to become simply silica. Thus, the presently-claimed invention distinguishes over Holocher-Ertl et al on the type of silica used, in addition to the all the other distinctions discussed above.

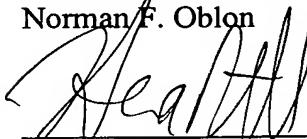
For all the above reasons, it is respectfully requested that the rejection be withdrawn.

All of the presently-pending claims in this application are believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Respectfully submitted,

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